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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,650	09/30/2003	Daniel E. Klimek	TSC-0014	5828
29344	7590	09/22/2005	EXAMINER	
MILLS & ONELLO LLP ELEVEN BEACON STREET SUITE 605 BOSTON, MA 02108			KIANNI, KAVEH C	
			ART UNIT	PAPER NUMBER
			2883	5

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/675,650

Applicant(s)

KLIMEK ET AL.

Examiner

Kianni C. Kaveh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) 27-69 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-13 and 23-26 is/are rejected.
- 7) ☒ Claim(s) 5 and 14-22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

Applicant's election without traverse of claims 1-26 in a paper submitted on 6/30/05 is acknowledged. The requirement is still deemed proper and is therefore made FINAL.

### Drawings

*Figure 1 and 2 should be designated by a legend such as --prior Art- because only that which is old is illustrated. See MPEP j 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.*

### **Claim Rejections - 35 USC § 112**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 23-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24 recites the limitation 'the second plate' in the 2<sup>nd</sup> line. There is insufficient antecedent basis for this limitation in the claim. Correction is required.

Claim 23 is ambiguous, since 'within the transmission plate' is ambiguous as whether first or second transmission plate the applicant is referring to. Correction is required.

***Allowable Subject Matter***

Claims 5 and 14-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 5 is allowable because the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the plurality of first and second transmission plates are interleaved and positioned with respect to the corresponding pluralities of first and second bars such that the emitted waves of the first plurality of wave emitters and the second plurality of wave emitters are interleaved in an output region comprising the output surfaces of the first and second transmission plates in combination with the rest of the limitations of the base claim.

Claims 14-22 are allowable because the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the input surfaces of the plurality of first transmission plates lie along a first input plane and wherein the input surfaces of the second transmission plates lie along a second input plane, and wherein the output surfaces of the plurality of first and second transmission plates lie along a common output plane in combination with the rest of the limitations of the base claim.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 6-13 and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Du et al. (DU) (US 6115185).

Regarding claim 1, Du teaches a system for combining waves of light energy (shown at least fig. 10 and col. 1, 5<sup>th</sup> parag. and col., 8, lines 56-61) comprising: a first transmission plate having an input surface 11 at a first edge and an output surface 12 at a second edge (shown in at least fig. 10, items individual transmission plates 9 with input and output edges; see col. 13, 3<sup>rd</sup> parag.), a second transmission plate having an input surface at a first edge and an output surface at a second edge (shown in at least

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fig. 10, items individual transmission plates 23 with input and output edges); and at least one of the first transmission plate and the second transmission plate further including a reflection discontinuity for reflecting emitted waves that enter the input surface 11 to the output surface 12 (see at least fig. 10, items individual transmission plates 23 having coated surface—reflection discontinuity similar to that of applicant's—on the input surface that reflects the wave to the output surface 12).

However, Du does not explicitly state that the above light energy is electromagnetic energy. It is obvious/well-known to those of ordinary skill in the art when the invention was made that the light is/known-as electromagnetic waves/energy since such energy produces a defined radiation field for optical elements (see col. 1, 1<sup>st</sup> parag.).

Regarding claims 2-4, 6-13 and 23-26, Du further teaches a first bar 1 of a first plurality of wave emitters and a second bar 1 of a second plurality of wave emitters wherein the first bar and second bar are diode bars (shown in fig. 1, items arrayed emitting diode bars 1); wherein the input surface of the first transmission plate is substantially parallel to the first bar such that a plurality of first waves emitted by the first plurality of wave emitters enter the input surface in a direction of propagation that is substantially normal to the input surface; and the input surface of the second transmission plate being substantially parallel to the second bar such that a plurality of second waves emitted by the second plurality of wave emitters enter the input surface in a direction of propagation that is substantially normal to the input surface (shown in

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fig. 2, items arrayed diode bars are in parallel to the input surfaces of array of plates 9 and as shown the propagation waves are normal to the input surfaces of the plates 9). wherein the transmission plates are positioned such that the output surface of the first transmission plate and the output surface of the second transmission plate are co-planar and adjacent (shown in at least fig. 2B, items plates are co-planar and adjacent); wherein the transmission plates are positioned such that output waves provided at the output surface of the first transmission plate and the output surface of the second transmission plate are output in a direction of propagation that is substantially normal to the output surface (shown in at least fig. 2B, items plates are normal to the waves); wherein the reflection discontinuity comprises an angled edge surface of the transmission plate wherein the angled edge surface is treated with a reflective coating (shown in fig. 10, item angled edge surface discontinuity/reflecting-coating); wherein the waves entering the first and second transmission plates undergo total internal reflection between the input surface and the output surface (shown in at least fig. 10, items the waves 4 entering the first and second transmission plates 23 undergo total internal reflection between the input surface 11 and the output surface 12); wherein the first and second transmission plates are bonded together (shown in at least fig. 2B and 6, items bonded plates); a shim 20 between the first 19 and second transmission plates 19 and wherein the first and second transmission plates 19 are bonded to the shim 20 (shown in at least fig. 6, items shims 20); wherein both of the first and second transmission plates include the reflection discontinuity (see col. 11, lines 56-col. 12, line 12+); wherein the input surface of at least one of the first and

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second transmission plates includes an integral lens structure for focusing incident electromagnetic energy to within the transmission plate (see at least col. 5, 3<sup>rd</sup> parag.); wherein the first plate has a propagation length between the input surface and the output surface that is different from that of the second plate (shown in at least fig. 2B, items different path length plates); wherein the waves of electromagnetic energy comprise laser beams 1; wherein the system comprises a plurality of the first transmission plates and a plurality of the second transmission plates and wherein the plurality of first and second transmission plates are interleaved (shown in at least fig. 6, items plates 20 and plates 19 are interleaved).

#### ***Citation of Relevant Prior Art***

Prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In accordance with MPEP 707.05 the following references are pertinent in rejection of this application since they provide substantially the same information disclosure as this patent does. These references are:

Anikitchev et al. 20040252744

Marshall 6377599

Clarkson et al. 5825551

(also the IDS provided by the applicant is noted in which the non-translated German references teach at least claim 1)

These references are cited herein to show the relevance of the apparatus/methods taught within these references as prior art.



***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Cyrus Kianni whose telephone number is (571) 272-2417.

The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 6:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached at (571) 272-2415.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
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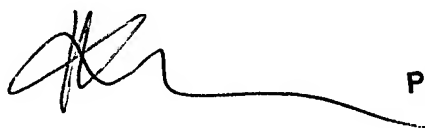
**or faxed to: 571-272-38300**

(703) 872-9306 (for formal communications intended for entry)

**or:**

Hand delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.



**KAVEH KIANNI  
PRIMARY EXAMINER**

K. Cyrus Kianni  
Primary Patent Examiner  
Group Art Unit 2883

September 19, 2005